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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,166	10/16/2003	Alexi C. Arango	H-359	6811
26245	7590	08/25/2004	EXAMINER	
DAVID J COLE E INK CORPORATION 733 CONCORD AVE CAMBRIDGE, MA 02138-1002			LEWIS, DAVID LEE	
			ART UNIT	PAPER NUMBER
			2673	

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

### Application No.

10/687,166

### Applicant(s)

ARANGO ET AL.

### Examiner

David L Lewis

### Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. **Claims 1-6, 10-18, 20-25, and 28-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Jacobson et al. (5961804).**

2. **As in claims 1 and 20, Jacobson et al. teaches of a dielectrophoretic display comprising: a substrate having walls defining at least one cavity, column 3 lines 10-13, column 7 lines 5-25, the cavity having a viewing surface and a side wall inclined to the viewing surface', column 3 lines 1-5, a suspending fluid contained within the cavity', figure 4A item 405, column 10 lines 10-30, a plurality of at least one type of particle suspended within the suspending fluid, figure 4A item 400, column 10 lines 10-30; and means for applying to the substrate an electric field effective to cause dielectrophoretic movement of the particles to the side wall of the cavity, figure 4A item 300 and 310, column 10 lines 10-30. Wherein said particles move to said cavity side walls given the spherical shape, said side walls inclined to the view surface as broadly interpreted.**

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3. **As in claim 2**, Jacobson et al. teaches of wherein the suspending fluid is substantially uncolored, and has suspended therein only a single type of particle, 2B item 405, column 8 lines 35-40. **As in claim 3 and 22**, Jacobson et al. teaches of wherein at least some of the at least one type of particle are electrically charged, column 10 lines 25-30. **As in claim 4 and 23**, Jacobson et al. teaches of wherein the suspending fluid has suspended therein a first type of particle having a first optical characteristic and a first electrophoretic mobility, figure 4A item 400, column 10 lines 10-30, and a second type of particle having a second optical characteristic different from the first optical characteristic and a second electrophoretic mobility different from the first electrophoretic mobility, figure 4A item 410, column 10 lines 10-30. **As in claim 5 and 24**, Jacobson et al. teaches of wherein the first and second electrophoretic mobilities differ in sign, so that the first and second types of particles move in opposed directions in an electric field, column 10 lines 25-30. **As in claim 6**, Jacobson et al. teaches of wherein the suspending fluid is substantially uncolored, column 8 lines 35-40. **As in claim 10**, Jacobson et al. teaches of a dielectrophoretic display according to claim 7 wherein the first and second optical characteristics comprise black and white colors. **As in claim 11**, Jacobson et al. teaches of wherein the cavity has a non-circular cross-section as seen from the viewing surface, column 12 lines 55-67. **As in claim 12**, Jacobson et al. teaches of wherein the cavity has a polygonal cross-section as seen from the viewing surface, figure 7E item 320. **As in claim 13 and 28**, Jacobson et al. teaches of wherein the at least one type of particle is formed from an electrically conductive material, column 5 lines 64-67. **As in claim 14 and 29**, Jacobson et al. teaches of wherein the at least one type of particle is formed from a metal or carbon black, column 5 lines 34-42 and 64-67. **As in claim 15 and 30**, Jacobson et al. teaches of wherein the at least one type of particle is formed from a doped semiconductor, column 6 lines 25-35. **As in claim 16 and 31**, Jacobson et al. teaches of wherein the substrate comprises at least one capsule wall so that the dielectrophoretic display comprises at least one capsule, column 7 lines 5-15. **As in claim 17 and 32**, Jacobson et al. teaches of comprising a plurality of capsules, the capsules being arranged in a single layer, figure 8A and 8B. **As in claim 18 and 33**, Jacobson et al. teaches of

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wherein the substrate comprises a continuous phase surrounding a plurality of discrete droplets of the suspending fluid having the at least one type of particle suspended therein, column 9 lines 34-45. **As in claim 21**, Jacobson et al. teaches of wherein the electric field is an alternating electric field, column 11 lines 10-25. **As in claim 25**, Jacobson et al. teaches of further comprising: applying an electric field of a first polarity to the cavity, thereby causing the first type of particles to approach the viewing surface and the cavity to display the first optical characteristic at the viewing surface, and applying an electric field of a polarity opposite to the first polarity to the cavity, thereby causing the second type of particles to approach the viewing surface and the cavity to display the second optical characteristic at the viewing surface, column 10 lines 10-30 and 53-67.

4. **Claims 1, 7-9, 19, 20, 26, 27, and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Liang et al. (2003/0048522).**

5. **As in claims 1 and 20, Liang et al. teaches of a dielectrophoretic display comprising: a substrate having walls defining at least one cavity, figure 5 item black background and microcup**, the cavity having a viewing surface and a side wall inclined to the viewing surface', **paragraph 58**, a suspending fluid contained within the cavity', **paragraph 48**, a plurality of at least one type of particle suspended within the suspending fluid, **figure 4B item particle**; and means for applying to the substrate an electric field effective to cause dielectrophoretic movement of the particles to the side wall of the cavity, **paragraph 49 and 50**. Wherein Laing generally teaches of an electrophoretic display having particles move to opposite sides of the microcup walls, as claimed. **As in claim 7 and 26**, Liang et al. is teaches of further comprising a backing member disposed on the opposed side of the cavity from the viewing surface, at least part of the backing member having a third optical characteristic different from the first and second optical characteristics, figure 5, paragraph 58. **As in claim 8 and 27**, Liang et al. teaches of wherein the backing member comprises areas having third and fourth optical characteristics different from each other and from the first and second optical

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characteristics, figure 5 item color filters. **As in claim 9**, Liang et al. teaches of wherein the backing member comprises areas having red, green and blue or yellow, cyan and magenta colors, paragraphs 33 and 58, figure 5. **As in claim 19 and 34**, Jacobson et al. is teaches wherein the substrate comprises a substantially rigid material having the at least one cavity formed therein, the substrate further comprising at least one cover member closing the at least one cavity, figure 1 items 11, 12, and 13, paragraph 48.

### **Conclusion**

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. 6738039, 4402062, 6693620, 2003/0132908, 4947159, 4418346 6025896, 5930026.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **David L. Lewis** whose telephone number is **(703) 306-3026**. The examiner can normally be reached on MT and THF from 8 to 5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached on (703) 305-4938. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

August 23, 2004

  
**BIPIN SHALWALA**  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600